

REMARKS/ARGUMENTS

Claims 1-26 remain in this application. Claims 1 and 11 have been amended by this Amendment, as further discussed below.

Drawing Objections

Replacement Figures 2, 2A and 3 are provided with this response to overcome the Examiner's objections to the drawings. These replacement drawings are each labeled "Replacement Sheet" in the page header.

Objections to the Specification

Paragraph [0004] of the specification as filed has been amended to remove the reference to www.rsaprotectivetechnologies.com as required by the Examiner.

Rejection Under 35 U.S.C. 102

Claims 1-3 and 5-10 have been rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,248,122 (Graham). Graham is directed to providing a pre-attached form system for an insulated structural wall panel. More particularly, Graham employs a structural reinforcing grid to which the form is attached, and concrete is placed within the grid spaces. *See* col. 3, lines 5-10. As depicted in Figure 2, vertical member (31) and horizontal member (32) are made up of steel rods (33, 34, 35, 36) and bar ties (37) to form a "rigid, monolithic, reinforcing system" Col. 3, line 61- col. 4, line 12. As depicted in Figure 3, steel rods (35, 36) are embedded in the upper and lower portions of concrete panel (10). However, as shown in Figure 3, the steel rods (35, 36) are not placed throughout concrete panel (10). Accordingly, Graham discloses a conventional "open-loop" reinforcement system, as depicted for example, in Figure 1 of this application. *See* para. [0019] of this application.

In contrast, the invention claimed in this application is a "closed-loop" multi-layered, membrane-like system in which the mesh structure loops around continuously without end points or end boundaries, and extends throughout the concrete fill material, as depicted, for example, in Figures 2 and 2A of this application. The individual wires have no bending strength; instead, the reinforcing structure of the invention derives its resistance through "membrane" action-analogous to the way a "sack of potatoes" is able to hold potatoes even though the walls of the sack have no bending strength. The "closed-loop continuity" with which each open-mesh wire cell of the reinforcing structure is connected to other cells continuously and the closed-loop multi-layered membrane structure that is thus formed is capable of developing "hoop" stresses and multi-layered "membrane" action to absorb the explosive energy unleashed by the shock waves of a bomb blast. The reinforcing structure is able to survive the blast event due to the extremely short-duration of the shock waves of the blast. Accordingly, the closed-loop, membrane-type reinforcing structure of the claimed invention will contain the exploding and flying concrete aggregate material that is shattered by the shock waves of a

bomb blast. The large-deflection capability of the claimed invention is achieved by the closed-loop membrane reinforcing structure that, upon being hit by the shock wave, absorbs the energy of the shock wave by stretching like a membrane while containing the concrete fragments for a few milliseconds until the shock wave has passed (shock waves typically have durations in the range of a few milliseconds).

However, the “open-loop” system of Graham cannot contain such concrete fragments, because the steel rods (35, 36), vertical members (31) and horizontal members (32) are only located around the perimeter of concrete panel (10). The system of Graham would shatter under a blast load, and concrete fragment projectiles would be dispersed in all directions. To clarify this distinction, Claims 1 and 11 (as well as the remaining claims ultimately dependent thereon) have been amended to specify that the mesh structure extends throughout the entire fill material. This amendment is supported, *inter alia*, by Figures 2 and 2A of the application as filed. In view of the foregoing, it is respectfully submitted that Claims 1-3 and 5-10 are novel and patentable over Graham.

Rejections Under 35 U.S.C. 103

Claim 4 has been rejected under 35 U.S.C. 103 as obvious in view of Graham in combination with U.S. Patent No. 6,263,629 (Brown, Jr.). Brown is directed to a reinforcing grid made up of two different types of fibers, wherein the first fiber type is capable of reinforcing a material such as concrete, and the second fiber type has a lower resistance to degradation and therefore is less costly than the first fiber type. *See* col. 3, lines 35-48. However, the reinforcing grid of Brown, Jr. does not extend throughout the entire fill material. For example, as shown in Figures 5 and 5A of Brown, Jr., concrete panel (58) has embedded within it grid work (10) made up of fibers of a first type (11) and fibers of a second type (16). However, Brown, Jr. does not disclose or suggest that this grid work extends throughout the entire concrete panel. Thus, the system of Brown, Jr. would also shatter under a blast load, and concrete fragment projectiles would be dispersed in all directions. In addition, as discussed above, amended Claims 1 and 11 (as well as the remaining claims ultimately dependent thereon) are distinguishable from the “open-loop” system of Graham. In view of the foregoing, it is respectfully submitted that Claim 4 is nonobvious and patentable over Graham in combination with Brown, Jr.

Claims 11-13, 15-22 and 24-26 have been rejected under 35 U.S.C. 103 as obvious in view of Graham in combination with U.S. Patent No. 5,335,472 (Phillips). Phillips is directed to a reinforced concrete prefabricated module for use in the construction of reinforced concrete buildings. As depicted in Figure 5, the module (24) contains an outer metal frame (48), insulation layer (56) and wire mesh layers (58). *See* col. 4, lines 7-15. As shown in Figure 7, a wire mesh layer (53A) may be secured to the outer corner support member (62A). *See* col. 5, lines 9-25. However, the wire mesh layers (58 or 53A) do not extend throughout the entire fill material. Thus, the system of Phillips would also shatter under a blast load, and concrete fragment projectiles would be dispersed in all directions. In addition, as discussed above, amended Claims 1 and 11 (as well as the remaining claims ultimately dependent thereon) are distinguishable from the “open-loop” system of Graham. In view of the foregoing, it is respectfully submitted that Claims 11-

13, 15-22 and 24-26 are nonobvious and patentable over Graham in combination with Phillips.

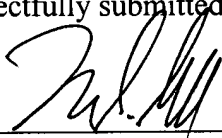
Conclusion

Based on the foregoing amendments and remarks, favorable consideration and allowance of all of the claims now present in the application are respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place the case in condition for final allowance, then it is respectfully requested that such amendment or correction be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, the Examiner is invited to telephone the undersigned.

The Commissioner is authorized to charge any required fees, including any extension and/or excess claim fees, any additional fees, or credit any overpayment, to Goodwin Procter LLP Deposit Account No. 06-0923.

Respectfully submitted for Applicant,



Louis S. Sorell, Esq. (Reg. No. 32,439)
GOODWIN PROCTER LLP
599 Lexington Avenue
New York, NY 10022
(212) 459-7421